

Appl. No. 10/807,050  
Amdt. Dated September 7, 2006  
Reply to Office Action of July 28, 2006

SEP 07 2006

**Remarks/Arguments**

By this Amendment, applicant has amended paragraphs [0020] and [0021] to use the term of "hot pressure welding" well known in the art instead of the term of "hot pressing". From paragraphs [0020] and [0021], as originally filed, it is clear that the inventors envisaged at the time of the invention that no adhesive bonding agent was to be used to achieve a bond/coupling between the flexible printed circuit board 164 and the electrical panel 162, with, instead, such a link being achieved solely through heat and pressure (i.e., a hot pressure weld).

Claims 1-8, 10-19, 22 and 23 were pending in the present application before the amendment as set forth above. By this Amendment, claims 1, 3, 11, 14 and 22 are amended, and claim 10 is canceled, wherein claim 14 is amended in a manner corresponding to the amendments to the specification.

**Claim Rejections under 35 U.S.C. 103**

Claims 1-8, 10, 11-19, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable by Higdon et al. (US 6,148,183) in view of Stopperan (US 5,428,190).

In response to the rejections, applicant respectfully asserts that the claims are patentable.

Regarding claim 1, this, in pertinent part, recites:

a flexible printed circuit board having conducting tracks formed thereon, the flexible printed circuit board being fixed to and electrically connecting with said printed circuit board by

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means of hot pressure welding ...

As admitted by the Examiner on page 4 of the Office Action, Higdon et al. does not even teach or suggest the use of hot pressure to couple an electrical panel to a printed circuit board. Applicant further submits, moreover, that Higdon et al. fails to disclose or suggest "a flexible printed circuit board having conducting tracks formed thereon, the flexible printed circuit board being fixed to and electrically connecting with a printed circuit board by means of hot pressure welding", as set forth in amended claim 1.

Further, applicant submits that amended claim 1 is unobvious under 35 U.S.C. 103 over Higdon et al. in view of Stopperan. Stopperan teaches a rigid-flex circuit board containing at least one rigid circuit board connected to at least one flexible jumper wherein a **conductive layer of the rigid circuit board and a conductive layer of the flexible jumper are electrically and mechanically connected by an interconnecting anisotropic conductive adhesive layer** (FIG. 2, col. 4 line 66 – col. 5 line 4). Stopperan further discloses, at col. 5, lines 51-54, that the assembly of the rigid panel, adhesive, and the flexible jumpers is "cured at an elevated temperature and a clamping pressure." Clearly, there is an interconnecting anisotropic adhesive layer between the rigid circuit board and the flexible jumper. The heat and pressure alone are not enough to join the flexible jumpers to the rigid panel in Stopperan.

However, as known in the art, hot pressure welding is a welding process that produces a coalescence of materials with heat and the application of pressure. That is, in the present invention as claimed in claim 1, the flexible printed circuit board and the printed circuit board are directly fixed to and connected with each other without any other adhesive

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means.

Accordingly, Stopperan fails to teach or suggest that a flexible printed circuit board is fixed to and electrically connected with a printed circuit board by means of hot pressure welding, as per amended claim 1.

In summary, neither Hogdon et al. nor Stopperan teaches or suggests that "a flexible printed circuit board is fixed to and electrically connected with a printed circuit board by means of hot pressure welding", in the manner of claim 1, as amended. Even assuming a motivation to apply Stopperan to Higdon et al., because of these references' failure to teach or suggest as described above, one of ordinary skill in the art would not have been led to provide the present invention as set forth in amended claim 1. Therefore, amended claim 1 is unobvious over any combination of Higdon et al. and Stopperan.

In conclusion, applicants assert that independent claim 1 is patentable under 35 U.S.C. 103 over Higdon et al. in view of Stopperan, and request reconsideration and removal of the rejection.

Claims 2-8 directly or indirectly depend from now-allowable claim 1 and, thus, should also be patentable under 35 U.S.C. 103 over Higdon et al. in view of Stopperan.

Regarding claim 10, applicants have canceled claim 10 without prejudice. Therefore, the rejection of claim 10 is now moot.

Regarding claim 11, this, in pertinent part, recites:

a flexible printed circuit board having conducting tracks formed thereon, the flexible printed circuit board configured for being fixed to and electrically connecting with a printed circuit

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board of the electronic device by means of hot pressure welding ...

In summary, as set forth in detail with respect to claim 1 above, neither Hogdon et al. nor Stopperan teaches or suggests that a flexible printed circuit board is fixed to and electrically connecting with a printed circuit board by means of hot pressure welding. Even assuming a motivation to apply Stopperan to Higdon et al., because of these references' failure to teach or suggest as described above, one of ordinary skill in the art would not have been led to provide the present invention as set forth in amended claim 11. Therefore, amended claim 11 is unobvious over any combination of Higdon et al. and Stopperan.

In conclusion, applicants assert that independent claim 11 is patentable under 35 U.S.C. 103 over Higdon et al. in view of Stopperan, and request reconsideration and removal of the rejection.

Claims 12-19 directly or indirectly depend from now-allowable claim 11 and, accordingly, should also be patentable under 35 U.S.C. 103 over Higdon et al. in view of Stopperan.

Regarding amended claim 22, this, in pertinent part, recites:

a flexible printed circuit board having conducting tracks formed thereon, the flexible printed circuit board being fixed to and electrically connecting with said printed circuit board by means of hot pressure welding ...

In summary, as provided with respect to claim 1 above, neither Hogdon et al. nor Stopperan teaches or suggests that a flexible printed circuit board is fixed to and electrically connecting with a printed

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circuit board by means of hot pressure welding. Even assuming a motivation to apply Stopperan to Higdon et al., because of these references' failure to teach or suggest as described above, one of ordinary skill in the art would not have been led to provide the present invention as set forth in amended claim 22. Therefore, amended claim 22 is unobvious over any combination of Higdon et al. and Stopperan.

In conclusion, applicants assert that independent claim 22 is patentable under 35 U.S.C. 103 over Higdon et al. in view of Stopperan, and request reconsideration and removal of the rejection.

Claim 23 directly depends from now-allowable claim 22 and, therefore, should also be patentable under 35 U.S.C. 103 over Higdon et al. in view of Stopperan.

In view of the foregoing, the present application as defined in the pending claims is considered to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,  
HSU ET AL.

By   
Jeffrey T. Knapp

Registration No.: 45,384  
Foxconn International, Inc.  
1650 Memorex Drive  
Santa Clara, CA 95050  
Tel. No.: 714/626-1229